IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

RYAN, et al.

Serial No.: 09/725,182

Filed: 29 November 2000

For: Novel and Practical Serological assay for the Clinical Diagnosis of Leishmaniasis

Art Unit: 1645

Examiner: Baskar, P.

Atty. Docket: P66748US1 (98-41X)

DECLARATION OF ALAN J. MAGILL
UNDER 37 C.F.R. § 1.132

1. I, Alan J. Magill, am a citizen of the United States of America and I reside at 9917 Hillridge Drive, Kensington, Maryland 20895.

2. In 1976, I obtained an undergraduate degree in biology from Lamar University at Beaumont, Texas, in 1978, I obtained a Masters of Science from the University of Rhode Island at Kingston, Rhode Island, and in 1984, I obtained a medical degree from Baylor College of Medicine at Houston, Texas.

3. From July 1984 to June 1985, I was a medical intern at Tripler Army Medical Center, Honolulu, HI.

4. From July 1985 to June 1987, I was a medical resident at Tripler Army Medical Center, Honolulu, HI.

5. From July 1989 to June 1992, I was a fellow of Infectious Diseases at the Walter Reed Army Medical Center, Washington, D.C.

6. I am board certified in Internal Medicine and also Infectious Diseases by the American Board of Internal Medicine.

7. My present positions include:

   a. Deputy Director, Division of Communicable Diseases and Immunology (DCD&I), Walter Reed Army Institute of Research, Silver Spring, MD;

   b. Senior Staff Attending Physician, Warren G. Magnuson Clinical Center, National Institutes of Health, Bethesda, MD;

   c. Attending Physician, Infectious Disease Service, Walter Reed Army Medical Center, Washington, DC;

d. Unaffiliated Voting Member, NMRC Institutional Review Board (IRB), NMRC, Silver Spring, MD;

e. Adjunct Associate Professor, Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine, Bethesda, MD;

f. Assistant Professor of Medicine, Department of Medicine, Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine, Bethesda, MD;

g. Research Coordinator (RC) for Common Diagnostics, Science and Technology Evaluation Program (STEP) L, Military Research and Material Command (MRMC), Ft. Detrick, MD; and

h. Principal Investigator, Department of Clinical Trials, Walter Reed Army Institute of Research, Silver Spring, MD.

8. I have advance training in:

a. Recombinant DNA Methodology from the Center for Advanced Training in Cell and Molecular Biology at Catholic University, Washington, DC;

b. Molecular and Cellular Mechanisms of Immunity from the Foundation for Advanced Education in the Sciences, Inc., at the Graduate School at the National Institutes of Health, Bethesda, MD; and

c. How to Get to Market with Medical Devices and Diagnostics from the Center for Professional Advancement at East Brunswick, NJ.

9. I was awarded a Meritorious Service Medal for Exemplary service as Head of Parasitology of the Navel Medical Research Center Detachment in Lima, Peru.

10. I was awarded an Army Commendation Award for recognition of viscerotropic leishmaniasis.

11. As provided in my attached curriculum vitae, I have taught numerous courses and have been an invited lecturer on leishmaniasis.

12. I have extensive experience in the detection and treatment of leishmaniasis, which includes developing a *Leishmania* skin test antigen and developing rapid diagnostic tests for tropical infectious diseases.

13. I am a joint-inventor of a pending U.S. patent application for a microfluidized *Leishmania* skin test antigen.

14. I am an author of several journal articles relating to leishmaniasis including the identification and genetic comparison of leishmanial parasites and the characterization of

a *Leishmania tropica* antigen that detects immune responses in viscerotropic leishnaniasis patients.

15. I am familiar with the above-referenced U.S. patent application Serial No. 09/725,182 and the references cited by the Examiner. In particular, I am familiar with the teachings of Martin *et al.* (1988) Annals of Tropical Medicine and Parasitology 92(5):571-577, Wirtz *et al.* (1989) Bulletin of the World Health Organization 67/5, 535-542, and WO 99/56755.

16. Prior to the present invention as claimed in the above-referenced U.S. patent application Serial No. 09/725,182:

    a. A protein free medium that supported the growth and culturing of cells and organisms was unknown; and

    b. Since a protein free medium was not available in the prior art, no one had been able to obtain a soluble antigen of a *Leishmania* parasite that was suitable for use in diagnostics and immunoassays as the prior art antigenic preparations were contaminated with other proteins and the resulting diagnostics and immunoassays suffered from non-specific binding and poor specificity.

17. It is my opinion that:

    a. The use of a protein free medium comprising an oncotic agent, such as XOM, is a necessary component of the invention as claimed in the above-referenced U.S. patent application Serial No. 09/725,182;

    b. No one can practice the assay method of the invention as claimed in the above-referenced U.S. patent application Serial No. 09/725,182 without having access to a protein free medium comprising an oncotic agent or knowledge of the ingredients in XOM; and

    c. A person of ordinary skill in the art would not be able to practice the assay method of the present invention solely by reading Martin *et al.* because (a) until the disclosure of the ingredients of XOM, no one has been able to make a protein free medium in which cells or organisms are viable or may be cultured, and (b) no one realized that the prior art protein free media did not work because no one realized the necessity and criticality of the presence of an oncotic agent to provide a suitable oncotic pressure for cell viability.

18. I would not be able to practice the immunoassays, diagnostic devices, and kits of the invention claimed in U.S. patent application Serial No. 09/725,182 without knowledge of the XOM ingredients or access to XOM itself.

19. It is my understanding that no one may obtain XOM or its ingredients from GIBCO/Invitrogen without the authorization or approval from an employee of the United States Army Medical Research and Materiel Command (USAMRMC) or the Walter

Reed Army Institute of Research (WRAIR) who has previously obtained XOM from GIBCO/Invitrogen.

20. As an expert in the field, it is my opinion that the disclosure of Martin *et al.*, does not enable one of ordinary or expert skill in the art to practice the immunoassay as described in Martin *et al.* and the immunoassays, diagnostic devices, and kits of the invention claimed in U.S. patent application Serial No. 09/723,182 without having access to XOM or knowledge of its ingredients.

21. As an expert in the field, it is my opinion that one of ordinary skill in the art would not be able to, from the disclosures of Martin *et al.*, alone or in combination, with Wirtz *et al.*, WO 99/56755, or both, practice the invention as claimed in U.S. patent application Serial No. 09/725,182 with a reasonable expectation of success without knowledge of the XOM ingredients or access to XOM itself. Specifically, it is my opinion that one of ordinary skill in the art would not have a reasonable expectation of successfully obtaining the soluble antigen employed in the immunoassays, diagnostic devices, and kits claimed in U.S. patent application Serial No. 09/723,182 without a protein free medium comprising an oncotic agent.

22. Thus, in my opinion, that the immunoassays, diagnostic devices, and kits as claimed in U.S. patent application Serial No. 09/723,182 are novel and non-obvious over the prior art.

23. I hereby state that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

EXECUTED at Silver Spring, MD this 17 day of April 2002,

by Alan J. Magill

Alan J. Magill